

## **Remarks**

### **I. Status of the Application and Claims**

As originally filed, the present application had a total of 18 claims. These were cancelled and replaced with claims 19-39 in a Preliminary Amendment submitted at the time of filing. Claims 32-36, 38 and 39 were withdrawn as the result of a restriction requirement. In the present response, claim 19 has been amended and claims 38 and 39 have been cancelled. Thus, the claims now pending are 19-31 and 37. Claims 32-36 have been withdrawn but have not been cancelled.

### **II. The Amendments**

Claim 19 was amended to indicate that an alkali metal silicate is the main component of the outer shell layer. Support for this amendment may be found, *inter alia*, in original claim 1 as filed. This amendment does not add new matter to the application and its entry is therefore respectfully requested..

### **III. Confirmation of Restriction Election**

Applicants hereby confirm their election of restriction group I, including claims 19-31 and 37. Claims in restriction group II have been withdrawn and Applicants will request that the Examiner consider rejoinder upon allowance. Claims in restriction group III, *i.e.*, claims 38 and 39 have been cancelled.

## **The Rejections**

### **I. Rejection of Claims Under 35 U.S.C. § 103**

On pages 4-6 of the Office Action, the Examiner rejects all pending claims except 24 and 25 under 35 USC §103 as being obvious in light of US 5,902,682 alone, or in combination with EP 0 623 553. The Examiner alleges that these references either disclose or make obvious all of the elements of the pending claims.

Applicants respectfully traverse this rejection.

The present application demonstrates that delaying the release of active oxygen from the core of the claimed peroxygen particles requires a combination of features:

- the presence of a alkali metal silicate layer which is an outer layer, *i.e.*, not located directly on the peroxygen compound (Examples 11 and 12);
- a modulus of greater than 2.5 for the alkali metal silicate in the outer layer (Examples 13 and 5); and
- and an alkali metal silicate layer that is prepared from an aqueous solution comprising 2-20 wt.% of alkali metal silicate (Examples 1-3).

As recognized by the Examiner, one main difference between the claimed peroxygen particles and the peroxygen particles disclosed by Bertsch-Frank concerns the concentration of the aqueous solution, comprising an alkali metal silicate, which is used for preparing the outer shell layer. However, Applicants respectfully submit that the Examiner has failed to appreciate the full significance of this difference. It is demonstrated by Applicants that the rate of release of active oxygen from the core of coated tablets depends upon the *concentration* of alkali metal silicate in the solutions used to make the outer coating, even though the *amount* and *chemical composition* of the alkali metal silicates are the same. This is demonstrated by the results provided in Examples 1 to 3 of the application (see pages 24-25). This is an entirely unexpected effect that could not have been predicted from anything in the prior art. It means that the differences in the alkali metal concentration used for making the outer shell in the Bertsch-Frank reference and in the present application is of great significance because these differences produce tablets with distinct active oxygen release properties. Thus, Applicants do not agree with the Examiner's allegation that there are no surprising and unexpected results.

Moreover, the absence of any suggestion or general knowledge of the dependency of the dissolution time of coated peroxygen particles on the concentration of an aqueous solution of a coating component, means that one of skill in the art would have no motivation to change the concentration of a coating solution in order to arrive at particles having a delayed dissolution. This relationship and the other parameters affecting dissolution are not taught in Bertsch-Frank.<sup>1</sup> Therefore, this reference cannot provide a motivation to make the changes described by Applicants and this deficiency is not remedied by Kokubo.

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<sup>1</sup> The only teaching in Bertsch-Frank on the concentration of coating solutions is given in column 6,

In addition, one of skill in the art trying to increase the dissolution time of the coated sodium percarbonate particles of Bertsch-Frank, would not be motivated to use features of the particles disclosed in Kokubo, since Kokubo is directed to exactly the opposite effect, *i.e.*, instead of attempting to find some manner of delaying solubility, Kokubo is concerned with providing particles having a fast solubility (see, page 2, lines 50 to 55). Apart from this, on page 3 in lines 34 to 39, Kokubo teaches that the solubility rate decreases when the coating amount of the silicate is increased. Based upon this teaching, a skilled person would increase the amount of the alkali metal silicate in the particles of Bertsch-Frank in order to increase dissolution time and would not arrive at the claimed subject matter.

It should also be noted that the preferred concentration ranges disclosed on page 4, line 55 to page 5, line 5 of Kokubo relate to solutions containing a silicate in combination with magnesium sulfate and an alkali metal salt selected from the group of alkali metal carbonates, alkali metal bicarbonates and alkali metal sulfates. These solutions comprise the silicate as a minor component. The combined solution of sodium carbonate and sodium silicate used in the examples of Bertsch-Frank (column 8, lines 46 to 53) is in accordance with these preferred ranges of Kokubo. Therefore, this disclosure of Kokubo would not motivate a skilled person to change the concentration of alkali metal silicate in the solutions of Bertsch-Frank.

Finally, it should be recognized that even if the dilute sodium silicate solutions disclosed in the examples of Kokubo were used in place of the sodium silicate solution of Bertsch-Frank, one would not arrive at the claimed subject matter, since all of the dilute sodium silicate solutions disclosed in Kokubo were prepared from water glass No. 1 and this has a modulus of less than 2.5.<sup>2</sup>

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lines 36 to 45. This relates to the reduction of the amount of water to be evaporated and suggests the use of concentrated sodium silicate solutions of 35 to 40° Beaumé. This teaching would not motivate a skilled person to use dilute alkali metal silicate solutions.

<sup>2</sup> Support for water glass No. 1 having a modulus of less than 2.5 may be found in US 3,957,673 column 4, lines 22 to 25. Applicants have not submitted a copy of this reference herewith since they believe that it should be readily available to the Examiner.

### Conclusion

In light of the amendments and discussion above, Applicants believe that all of the Examiner's rejections have been overcome. It is therefore respectfully requested that these rejections be withdrawn and that the claims now pending be allowed. Early notice to this effect is earnestly solicited.

If, in the opinion of the Examiner, a phone call would help to expedite the prosecution of this application, the Examiner is invited to call Applicants' undersigned attorney at (202) 419-7013.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY



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